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(71) Applicants and

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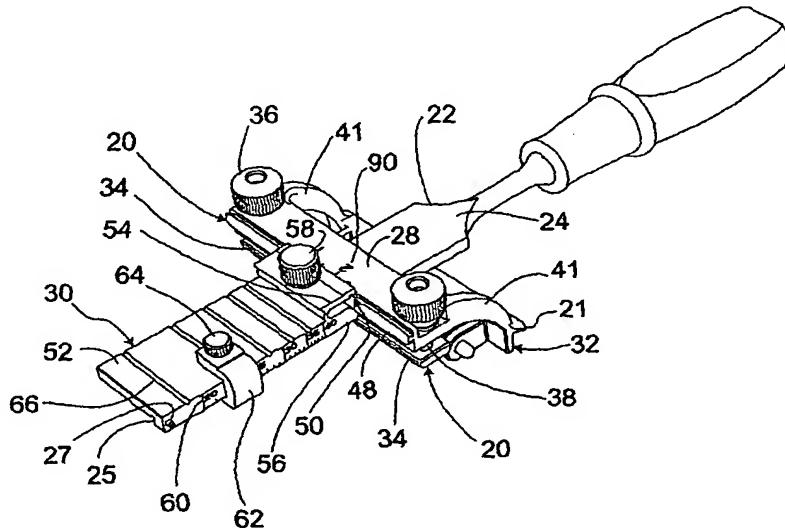
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(81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: HONING GUIDE ASSEMBLY



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(57) Abstract: A honing guide and bevel setting jig (30,40) for removable attachment to the honing guide (20) to properly position the angle and projection of a tool (22) to be sharpened in the jig to enable the tool to be honed at the proper angle and position. An adjustable roller (42) that contacts an abrasive surface (44) during use of the guide facilitates formation of micro bevels. A tool securing bar (34) having a generally triangular shape in the bar's middle section forces the arris-defining back of the tool being honed against a reference surface (24) in the guide by tightening thumb nuts (36) around threaded studs (38) projecting from the bar. Jigs for use with both square and skew edge chisel and blades are described. A concave surface clamp bar (1012) honing guide provides enhanced gripping of the tool being honed, and wedges (200) and adjustable structures expand the range of bevel angles that can be honed.



(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB2004/001152

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B24B41/06 B24D15/06 B24B33/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 B24B B24D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2 740 241 A (MCCUBBIN CRISTO Z) 3 April 1956 (1956-04-03)	1-6,8, 14-17, 19,20, 26,28, 33,34
Y	column 1 - column 4; figures 2,7 ----- US 4 733 501 A (MCLEAN FRANCIS A) 29 March 1988 (1988-03-29) cited in the application column 3, line 31 - column 4, line 5; figures 2,6-10 ----- -/-	9-12, 21-24, 29-33
Y		9-12, 21-24, 29-33

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the International filing date but later than the priority date claimed

"T" later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the International search

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INTERNATIONAL SEARCH REPORT

International Application No
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C(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PATENT ABSTRACTS OF JAPAN vol. 1998, no. 06, 30 April 1998 (1998-04-30) -& JP 10 044001 A (SAITO ETSURO), 17 February 1998 (1998-02-17) abstract; figures 13,15,17,23,28 -----	1-3,5,6, 8-10, 13-16, 19-22, 26,36, 39,45
X	DE 526 996 C (KONRAD STICHEL) 12 June 1931 (1931-06-12) figure 1 -----	1-4, 15-18,36
A	US 418 781 A (J. BLAKESLEE) 7 January 1890 (1890-01-07) figure 1 -----	26

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2004/001152

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3. Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple Inventions in this international application, as follows:

see additional sheet

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.

2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-6, 8-26, 28-33, 36, 39, 45

Remark on Protest

The additional search fees were accompanied by the applicant's protest.

No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-6,8-26,28-33,36,39,45

Tool honing guide having a removable bevel setting jig and a roller securable in at least two locations using eccentric roller shaft to form microbevels, associated honing method

2. claims: 7,27

tool honing guide and bevel setting jig having means for positioning a skew edge tool for beveling

3. claims: 33,34

tool honing guide having both a roller and a structure for engaging a motorized grinder tool rest

4. claim: 35

tool honing guide and bevel setting jig having concave clamping surface to avoid tool rocking

5. claims: 37-38

tool guide and bevel setting jig having a tool holding structure attachable in discrete and stable angular positions with respect to the wheel holding structure

6. claims: 40-44

tool guide and bevel setting jig having wedges for changing the angle of the blade within the tool holding section

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB2004/001152

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2740241	A	03-04-1956	NONE	
US 4733501	A	29-03-1988	GB 2182589 A ,B	20-05-1987
JP 10044001	A	17-02-1998	NONE	
DE 526996	C	12-06-1931	NONE	
US 418781	A		NONE	